What is claimed is:

- 1. A pharmaceutical microsphere, comprising:
  - a bioactive agent; and
- a biological carrier that encapsulates said bioactive agent, wherein the biological carrier is crosslinked with a crosslinking agent.
- 2. The pharmaceutical microsphere of claim 1, wherein the crosslinking agent is genipin, its analog, derivatives, and combination thereof.
- 3. The pharmaceutical microsphere of claim 1, wherein the crosslinking agent is selected from a group consisting of formaldehyde, glutaraldehyde, dialdehyde starch, glyceraldehydes, cyanamide, diimides, diisocyanates, dimethyl adipimidates, carbodiimides, epoxy compounds, and mixture thereof.
- 4. The pharmaceutical microsphere of claim 1, wherein the crosslinking agent is selected from a group consisting of dimethyl suberimidate, succinimidyls, acyl azide, ultraviolet irradiation, dehydrothermal treatment, tris(hydroxymethyl)phosphine, ascorbate-copper, glucose-lysine and photo-oxidizers.
- 5. The pharmaceutical microsphere of claim 1, wherein the biological carrier is selected from a group consisting of collagen, gelatin, elastin, chitosan, N, O, carboxylmethyl chitosan, and mixture thereof.
- 6. The pharmaceutical microsphere of claim 1, wherein the bioactive agent is selected from a group consisting of analgesics/antipyretics, antiasthamatics, antibiotics, antidepressants, antidiabetics, antifungal agents, antihypertensive agents, anti-inflammatories, antineoplastics, antianxiety agents, immunosuppressive agents, antimigraine agents, sedatives/hypnotics, antipsychotic agents, antimanic agents, antiarrhythmics, antiarthritic agents, antigout agents, anticoagulants, thrombolytic agents, antifibrinolytic agents, antiplatelet agents and antibacterial

agents, antiviral agents, antimicrobials, and anti-infectives.

- 7. The pharmaceutical microsphere of claim 1, wherein the bioactive agent is selected from a group consisting of actinomycin D, paclitaxel, vincristin, methotrexate, and angiopeptin, batimastat, halofuginone, sirolimus, tacrolimus, everolimus, tranilast, dexamethasone, and mycophenolic acid.
- 8. The pharmaceutical microsphere of claim 1, wherein the bioactive agent is selected from a group consisting of lovastatin, thromboxane A<sub>2</sub> synthetase inhibitors, eicosapentanoic acid, ciprostene, trapidil, angiotensin convening enzyme inhibitors, and heparin.
- 9. The pharmaceutical microsphere of claim 1, wherein the bioactive agent is selected from a group consisting of allicin, ginseng extract, flavone, ginkgo biloba extract, glycyrrhetinic acid, and proanthocyanides.
- 10. The pharmaceutical microsphere of claim 1, wherein the bioactive agent comprises biological cells.
- 11. The pharmaceutical microsphere of claim 1, wherein the bioactive agent comprises a growth factor.
- 12. A method for administering a pharmaceutical microsphere into a body of a patient comprising:

providing the pharmaceutical microsphere that comprises a bioactive agent and a biological carrier, said biological carrier encapsulating said bioactive agent, wherein the biological carrier is crosslinked with a crosslinking agent; and

delivering said pharmaceutical microsphere into the body of the patient.

13. The method of claim 12, wherein the crosslinking agent is genipin, its analog, derivatives,

and combination thereof.

- 14. The method of claim 12, wherein the crosslinking agent is selected from a group consisting of formaldehyde, glutaraldehyde, dialdehyde starch, glyceraldehydes, cyanamide, diimides, diisocyanates, dimethyl adipimidates, carbodiimides, epoxy compounds, dimethyl suberimidate, succinimidyls, acyl azide, ultraviolet irradiation, dehydrothermal treatment, tris(hydroxymethyl)phosphine, ascorbate-copper, glucose-lysine, photo-oxidizers, and mixture thereof.
- 15. The method of claim 12 further comprising a step of loading said pharmaceutical microsphere onto a medical device before the delivering step, wherein both of said pharmaceutical microsphere and said medical device are delivered into the body of the patient.
- 16. The method of claim 15, wherein the medical device is a stent.
- 17. The method of claim 15, wherein the medical device is a non-stent implant.
- 18. The method of claim 15, wherein the medical device is selected from a group consisting of annuloplasty rings, heart valve prostheses, venous valve bioprostheses, orthopedic implants, dental implants, ophthalmology implants, cardiovascular implants, and cerebral implants.
- 19. The method of claim 15, wherein the medical device is a percutaneous apparatus selected from a group consisting of a catheter, a wire, a cannula, and an endoscopic instrument.
- 20. The method of claim 12, wherein the biological carrier is selected from a group consisting of collagen, gelatin, elastin, chitosan, N, O, carboxylmethyl chitosan, and mixture thereof.